

BENIGN GONOCOCCAL SEPSIS WITH SKIN LESIONS*

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Gonococcal sepsis is said to occur mainly in patients with old relapsing gonorrhoea or with genital complications of gonorrhoea (prostatitis, epididymitis, salpingitis) and may be of two distinct types:

(a) Severe prostration occurs with a high fever, and symptoms of widespread disease. The heart, meninges, kidneys, pleurae, liver, and skin may be involved. This type of sepsis has a grave prognosis and before the sulphonamide-antibiotic era 80 to 90 per cent. of patients with endocarditis died (Burckhardt, 1964).

(b) The patients are febrile but not severely ill, joint and skin symptoms dominating the clinical picture.

The skin lesions in gonococcal sepsis are typical. They appear in bouts as scanty solitary lesions, usually on the extremities but sometime also on the face and body. They are often transitory and may be

seen in different stages. The early erythematous patch develops into a red papule and then into a vesicle or pustule. The lesions are often haemorrhagic and tender and may be surrounded by an erythematous halo; they then dry up and small crusts are seen after a few days.

Present Investigations

During the last year nine patients, one male and eight females, were seen at the Department of Dermatology and Venereology, Gothenburg, Sweden, with a typical clinical picture of gonococcal sepsis which exactly corresponds to the second type described above. The clinical and laboratory data are shown in Tables I and II. Two of these cases have been described in detail elsewhere. (Björnberg and Gisslén 1965).

Histologically the pustules showed a large infiltrate of neutrophils round the vessels in the corium. This infiltrate invaded the epidermis which

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TABLE I
CLINICAL DATA ON NINE PATIENTS WITH BENIGN GONOCOCCAL SEPSIS

Case No.	Age (yrs)	Sex	Previous Gonorrhoea	Skin Lesions	Joint Manifestations	Fever	Symptoms of Genital Gonorrhoea	Remarks
1	20	F	No	Typical	Elbow + ankle	1 month	None	
2	22	F	No	Typical	Ankle	3 weeks	None	Delivery 3 weeks earlier
3	20	F	No	Typical	Knee + wrist	Slight	None	Sexual partner of No. 6
4	30	F	No	Typical	All large joints	Absent	None	Sexual partner treated for gonococcal epididymitis
5	20	F	Salpingitis, 1963	Typical	Shoulder	Present	None	Dilatation and curettage 1 month earlier
6	26	M	No	Typical	Ankles	Present	Urethral discharge	Prostatitis Sexual partner of No. 3
7	16	F	Urethritis, 1963	Typical	Ankles + knees + elbows + fingers	Present	None	
8	27	F	No	Typical	Wrist + knee + shoulder	Present	None	
9	21	F	No	Typical	Ankles	Present	Vaginal discharge	

TABLE II
RESULTS OF LABORATORY TESTS ON NINE PATIENTS WITH BENIGN GONOCOCCAL SEPSIS

Case No.	Haemoglobin (g. per cent.)	White Cell Count	Erythrocyte Sedimentation Rate	Urinary Sediment	Proteinuria	Culture for Gonococci					Complement Fixation Test for Gonococci	Anti-streptolysin Titre	Anti-staphylococcal Titre	Agglutination of Sensitized Sheep Erythrocytes	Electrocardiogram
						Urethra	Cervix	Rectum	Blood	Pustule					
1	8.5	4,100	60	0	0	—	+	—	+	—	+	800	< 2	—	Normal
2	14.5	11,400	31	White blood cells	0	+	+	—	—	—	+	200	< 2	—	Normal
3	13.3	9,900	20	Red blood cells	0	+	+	—	—	—	Weakly +	200	< 2	—	Normal
4	9.8	7,400	44	0	0	—	+	—	—	—	+	—	—	—	Normal
5	8.6	9,800	32	0	0	—	+	—	—	—	—	100	< 2	—	Normal
6	11.9	6,000	64	0	0	+	—	—	—	Staph. aureus	+	400	< 2	—	—
7	13.9	6,300	12	White and red blood cells	0	+	—	—	—	—	+	—	—	—	Normal
8	11.5	7,100	—	0	0	+	+	—	—	—	+	200	< 2	—	Partial degree heart block
9	10.4	7,400	45	0	0	—	+	+	—	Staph. aureus	+	200	< 2	—	Normal

was partly necrotic. No bacteria were seen in the sections.

Two women (Cases 5 and 7) had had gonorrhoea one year before the sepsis developed but these earlier infections had been adequately treated and controlled. In one patient (Case 2) the gonococcal sepsis started after the delivery of a child, and in another (Case 5) 1 month after curettage of the uterus. In seven of the women there were no clinical signs of genital gonorrhoea, but the man (Case 6) had symptoms of urethritis and prostatitis and one woman (Case 9) had vaginal discharge for 2 months. In all but Case 1, gonococcal sepsis was diagnosed from the typical clinical picture, the septic or maintained pyrexia, joint symptoms, and characteristic skin lesions. Positive gonococcal cultures from the genital mucosa then confirmed the diagnosis. Cases 3 and 6 were sexual partners. In the eight cases in which the action of antibiotics was investigated, the gonococci were sensitive to penicillin streptomycin, tetracycline, and chloramphenicol. In all patients the infections healed promptly on treatment with penicillin.

Comment

The clinical picture of benign gonococcal sepsis is thus characterized by fever, mild systemic symptoms, inflammation of the joints, a scanty discrete papulo-pustular haemorrhagic rash and the presence of gonococci in the genital tract.

It has been said that, since sulphonamides and antibiotics were introduced for the treatment of gonorrhoea, no cases of skin manifestations of gonorrhoea have been reported in the literature (Tappeiner and Wodniansky, 1964). However, during the last year, several cases have been described with exactly the same clinical picture as that seen in our cases: fourteen cases (1957-63) were reported from the USA, two (1963) from England, four (1964) from Denmark, one (1964) from Sweden, two (1965) from the USA. The data from these recent publications concerning the finding of gonococci in the blood, skin lesions, and anogenital mucosa are summarized in Table III. It has been doubted whether this syndrome is caused by a true gonococcaemia because gonococci may be

TABLE III
DEMONSTRATION OF GONOCOCCI IN THE GENITAL TRACT, BLOOD, AND SKIN LESIONS IN 31 PATIENTS WITH BENIGN GONOCOCCAL SEPSIS

Author	No. of Cases	Gonococci		
		Genitalia	Blood	Skin Lesions
Abu-Nassar and others	14	11 of 12	0 of 11	0 of 8
Kvorning	4	3 of 4	0 of 2	0 of 3
O'Sullivan	2	2 of 2	0 of 1	0 of 2
Danielsson	1	1 of 1	0 of 1	1 of 1
Ackerman and others	1	0 of 1	1 of 1	1 of 1
Present Series . . .	9	9 of 9	1 of 5	0 of 7

difficult to find in the blood and in the skin. The demonstration of gonococci in the blood in one of our patients and in the skin in certain other cases (Table II) proves, however, that the syndrome is due to a gonococcal sepsis.

All our patients were seen at the hospital because of their skin lesions and were not aware of any venereal infection. The occurrence of benign gonococcal sepsis in two sexual partners observed by Abu-Nassar, Hill, Fred, and Yow (1963), Ackermann, Miller, and Shapiro (1965) and also in our own series may be important observations. A virulent type of gonococcus may be responsible for this gonococcal sepsis, which seems to be increasing in frequency.

Summary

Nine cases of benign gonococcal sepsis seen during 1965 are described. The typical clinical picture included fever, joint manifestations, a discrete haemorrhagic papulopustular eruption, and usually asymptomatic genital gonococcal infection. *Neisseriae gonorrhoea* were isolated from the blood in one case. In the recent literature 22 further cases have been reported.

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Une infection bénigne gonococcique avec des lésions cutanées

RÉSUMÉ

Neuf cas d'infection bénigne gonococcique vus pendant 1965 sont décrits. Les signes typiques cliniques sont: la température, l'affection des articulations, l'éruption discrète de forme papulo-pustulaire hémorragique, et généralement une infection génitale gonococcique sans symptômes. Des gonocoques de Neisser ont été isolés du sang d'un de ces cas. 22 autres cas ont été rapportés récemment dans les journaux médicaux.